Introduction to Science Reference Center

As an educator, you can ensure your students are successful researchers for years to come by teaching them how to properly use library databases. Before the first research project is assigned, take some time to familiarize your students with the database's features and functionality. As students proceed through school, they will become more independent in their learning, inquiry, research and discovery. This lesson plan includes activities to engage your students in database research and establish best practices.

Objectives

Students will be able to:

- Develop strong search strings
- Find content that gives interesting and useful information to help them understand a topic
- Find content at their reading level
- Use common structures and layouts of technical papers to find key information and cite work properly
- Identify specific source types
- Recognize outdated (and possibly irrelevant) material
- Recognize fact-based versus opinion-based texts

Standards

CCSS.ELA-Literacy.RST.6-8.5, CCSS.ELA-Literacy.RST.6-8.8, CCSS.ELA-Literacy.RST.6-8.10.

Materials

- 1. Computer/laptop/tablet
- 2. Access to Science Reference Center

Procedures

Educator:

- 1. Demonstrate or individually assist students as they run through each task.
- 2. Provide time for students to investigate/practice skills on their own.
- 3. Provide assignment instruction and demonstration to students.
- 4. Allow time for group learning or peer-to-peer learning.
- 5. Extend by sharing suggestions for independent study and further research using the database.

Student:

- 1. Observe educator demonstrations before attempting tasks
- 2. Complete each task as presented:
 - a. Task 1: Steps to develop skills in writing strong search strings:
 - Type a favorite subject (e.g. biology, algebra, physics, geometry) into the basic search box.
 - Compare result count with classmates and debate the value of more results or fewer results.

- Add another term (e.g. cells, graphing, rockets, or angles)
 with "AND" to narrow results. Rerun search.
- Compare result count to previous search.
- Pick one of the subjects listed on the sidebar that you think will help refine your search.
- Discuss with classmates how this changes the result list.

b. Task 2: Steps to show how to find interesting and useful information:

- Start a new search by either clicking "New Search" or clicking the *Science Reference Center* logo.
- Pick a category listed in the Browse by Category section, and click through topics to a result list.
- Repeat steps 1-2, and discuss with classmates how topic lists are related.
- List parts of a record that help determine if content will be useful.
- Scroll over the icon to make the citation pop up. What information is provided?
- Read the abstract and identify how you can determine its usefulness.
- Identify the year the record was published.
- Change the Publication Date slider to include only the last ten years.
- Discuss with classmates how this changes the result list.

1962 Publication Date 2012

Subject

Show More

united states (13)

united states, national

aeronautics & space administration (9)

rockets (aeronautics) (8)

artificial satellites (4)

books -- reviews (3)

outer space -- exploration (7)

c. Task 3: Steps to limit to an appropriate reading level:

- Run an Advanced Search using any keyword.
- In the Limit your results section, scroll through the Lexile Reading Level and choose the appropriate Lexile or grade (multiple levels can be selected by holding down the Ctrl key).

d. Task 4: Steps to find specific source types:

- Think of the various source types you may encounter in assignments, on the database, and in works cited lists.
- Categorize them into a few major groups. Science Reference Center uses the following categories: Magazines, Reference Books, Science Experiments, Biographies, Academic Journals
- In the Source Type limiter on the sidebar, choose one source type.
- Discuss with classmates how this changes the result list. Is it useful to have only one source type?



- 3. Investigate the database on your own.
- 4. Contribute to group discussion of *Science Reference Center* and best research practices. Share new tricks you've learned through independent investigation with your classmates by combining screenshots and captions to create a user guide.

Assessment

Formative Assessment: Observe students in group discussion.

Summative Assessment: Review user guides for strong search string development, clear explanation of interface features, and inclusion of tips for identifying quality content.